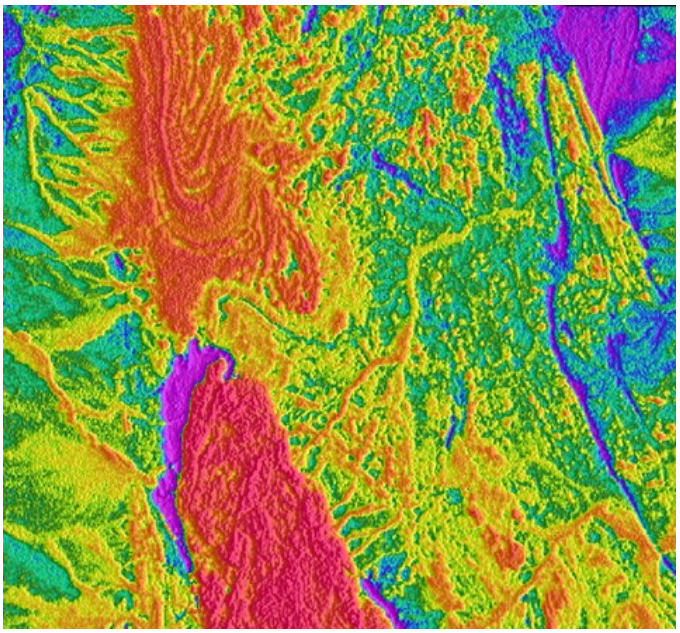
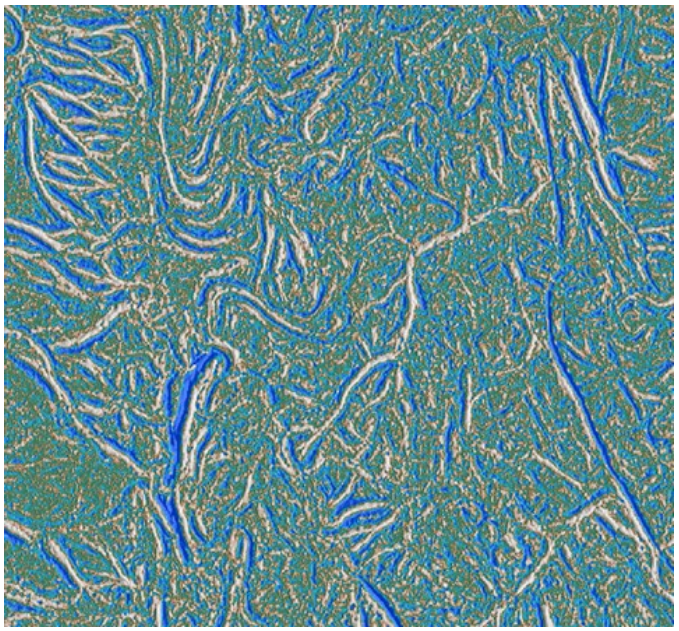
Product Brochure

LINEAMENT_Filter

Lineament Extraction and Enhancement

LINEAMENT_Filter is a method designed for the extraction and enhancement of linear anomalies in noisy geophysical grid data





(Data courtesy Geoscience Australia)

Features

- Loosely based on the radon transform as applied to the enhancement of image data
- Includes and automatic gain control to scale all lineaments to approximately the same amplitude
- Specifically designed for noisy data

Benefits

- Linear and curvi-linear anomalies enhanced for a variety of applications
- Can be applied to all gridded geophysical data

Motivation

The analysis of lineaments in airborne geophysical data is one of the most important stages of the geological interpretation of these data. In addition to the obvious applications such as the annotation of dykes, faults, and basement lithological trends, the method can be applied directly to the detection of paleochannels and strand lines.

Lineament detection is thus of prime interest in the search for a number of commodities, including placer gold/tin deposits, heavy minerals and uranium.

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While the method was specifically designed for (typically noisy) radioelement data derived from gamma-ray spectrometry, the method can be applied to any gridded data.

The images below show the application of the method to a Total Magnetic Intensity image. It can also be applied to any enhancements or transformations of TMI data.

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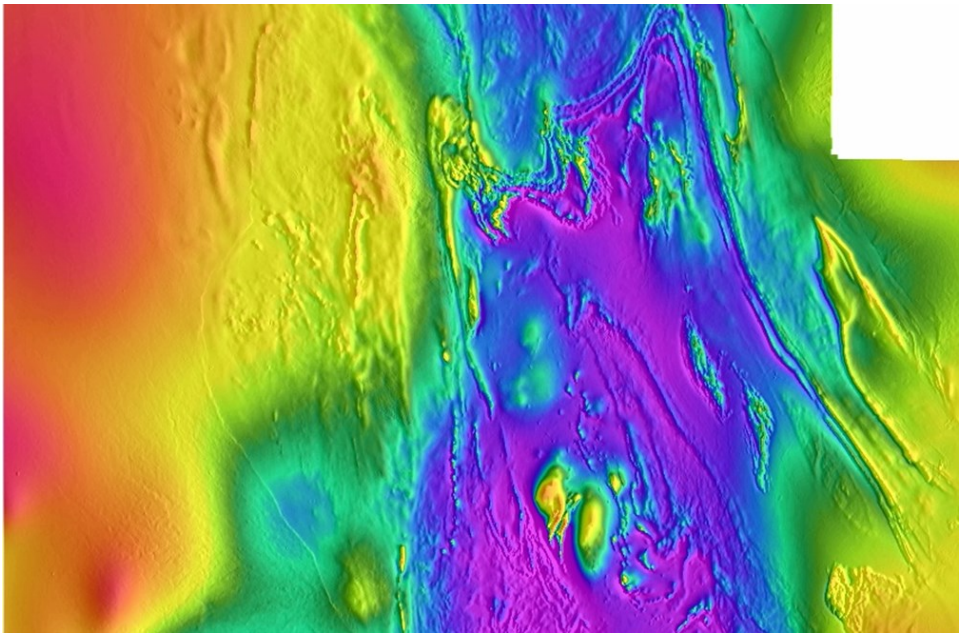

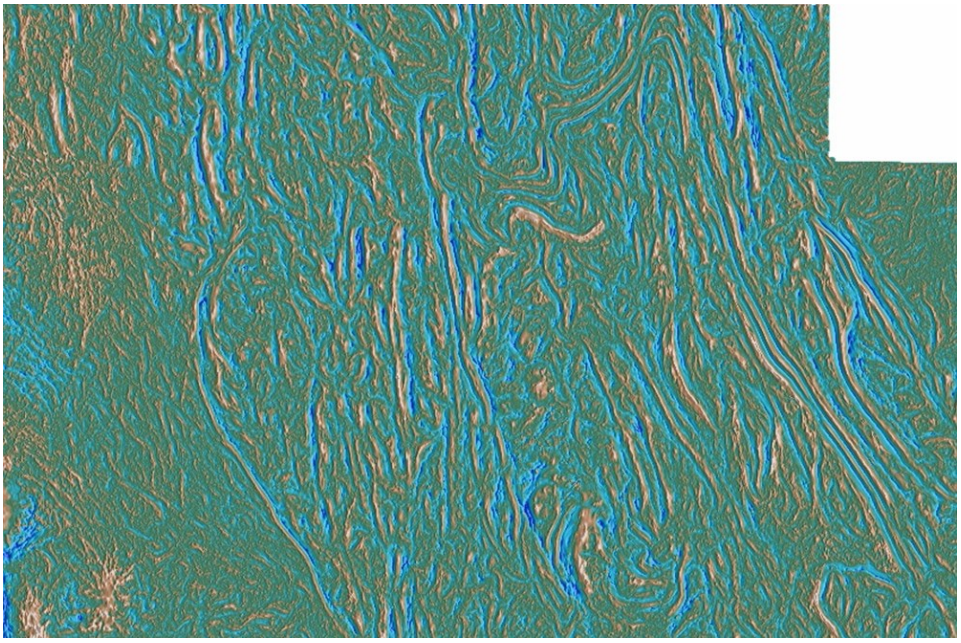

(Data courtesy Geoscience Australia)